

Tuberculosis - Massachusetts

In 2007, 224 cases (case rate 3.53 per 100,000) of active tuberculosis (TB) were reported to and verified by the Massachusetts Department of Public Health, Division of TB Prevention and Control. Following a period of level TB case rates, TB cases declined in 2007 by 14%. For the first time, Massachusetts achieved the year 2000 TB case rate objective of 3.5 set forth by the Centers for Disease Control and Prevention (CDC).

Drug Resistance

In 2007, 159 (71%) of the 224 TB cases were bacteriologically confirmed by positive culture for *Mycobacterium tuberculosis*.

Of the 159 bacteriologically confirmed cases, drug susceptibility was performed for all of the isolates. Twenty-four isolates (15%) were resistant to one or more anti-tuberculosis drugs. Isolates from 12 (50% of 24 cases, 8% of 159 cases) were resistant to isoniazid (INH) either alone or in combination with other agents.

In 2007, there was 1 MDR-TB case (defined as resistance to at least INH and rifampin (RIF)), and no XDR-TB cases (defined as MDR-TB with additional resistance to any fluoroquinolone and at least one injectable second-line drug, such as amikacin, kanamycin or capreomycin).

Race/Ethnicity

Persons in minority groups composed 79% of the TB cases in 2007. For blacks, the case rate declined 61%, from 48.1 in 1991 to 20.1 in 2007. Although Asians continue to have a much higher case rate than any other group (case rate 30.3 per 100,000 in 2007), the case rate for Asians declined 18% since 2004.

Higher Risk Groups

Non-U.S. born (persons born outside the United States and its territories): Among the 166 non-U.S. born persons with TB in 2007, those from 11 countries account for 60% of TB cases. China and India each accounted for 18 cases (11%), followed by Haiti - 12 cases (7%), Vietnam - 11 cases (7%), Cambodia - 7 cases (4%), Portugal - 7 cases (5%), Guatemala - 6 cases (4%), Kenya - 6 cases (4%). The Dominican Republic, Ethiopia and Liberia each accounted for 5 cases (3%). The remaining 66 cases (40%) were in people from 37 different countries. Between 1993 and 2007, 50% of TB cases in persons born outside the United States and its territories were diagnosed within 5 years of arrival to the US.

Homeless: Of the 224 cases of TB reported in 2007, 9 cases (4%) were reported to have been homeless (estimated homeless case rate of 28.0 per 100,000). Among the 9 homeless cases, 7 (78%) were reported from the City of Boston.

Incarcerated: In 2006, 10 cases of TB (4%, case rate 41.5 per 100,000 incarcerated) were diagnosed in either state or county correctional facilities. In 2007, 4 cases (2%, case rate 16.6 per 100,000) were diagnosed in correctional facilities

HIV co-infected: Seventeen TB cases (7.6%) in 2007, were known to be co-infected with human immunodeficiency virus (HIV) - a rate similar to previous years.

Children: In 2007, 12 TB cases were in children <15 years of age (5% of cases, case rate 1.0 per 100,000 children <15 years old). Ten of the 12 children (83%) were children of minority communities. The case rate among minority children in 2007 was 3.6 per 100,000. **Despite an overall decline of TB cases in 2007, the number of children with TB increased from 8 to 12.**

Note: All case rates are per 100,000 population.

For additional information, please visit our web page: <http://www.mass.gov/dph/cdc/tb>
March 2008

Characteristics of TB Cases 2007 (N=224)		
Demographics	#	%
Sex		
Male	129	(58%)
Female	95	(42%)
Race Ethnicity		
White, non-Hispanic	47	(21%)
Black, non-Hispanic	69	(31%)
Hispanic	35	(16%)
Asian	73	(32%)
Place of Birth		
US-Born	58	(26%)
Non US Born	166	(74%)
Age (years)		
<5	4	(2%)
5-14	8	(4%)
15-24	26	(11%)
25-44	72	(32%)
45-64	73	(34%)
65+	39	(17%)
Clinical Presentation		
Primary Site of Disease		
Pulmonary	151	(67%)
Extra pulmonary	73	(33%)
Chest X-Ray Results (with pulmonary involvement)		
Cavitary Disease	37	(21%)
Non-cavitary Disease, TB	138	(77%)
Non-cavitary Disease, not TB	2	(1%)
Normal	2	(1%)
Not Done	0	
High Risk Groups+		
Non-U.S. Born	166	(74%)
Children < 15 Yrs.	12	(5%)
Prison/jail	4	(2%)
Homeless	9	(4%)
Substance Abuse*	20	(9%)
HIV positive	17	(8%)
+Not mutually exclusive groups * Excessive alcohol, injecting and/or non-injecting drug abuse		
Drug Resistance (N=159 Bacteriologically Confirmed Cases)		
Pattern		
Resistance to at least 1 drug	24	(15%)
Resistance to at least INH	12	(8%)
Resistance to at least INH + RIF (MDR-TB)	1	(<1%)